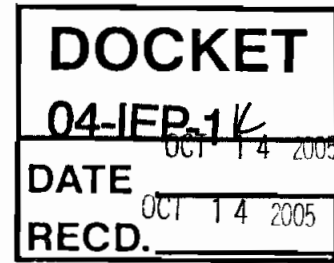


October 14, 2005



California Energy Commission Dockets Unit

Attn: Docket No. 04 IEP 1K

1516 Ninth Street, MS-4

Sacramento, CA 95814-5512

RE: SDREO Comments on 2005 IEPR Draft

1 Introduction

The San Diego Regional Energy Office (SDREO) is pleased to provide the following comments on the 2005 draft Integrated Energy Policy Report. SDREO has been following the 2005 IEPR process and reporting its development to the stakeholders in our region. It is our hope to actively participate in future rounds of IEPR development. SDREO is also a member of the San Diego Association of Governments (SANDAG) Energy Working Group and as such has provided public comment during the IEPR process.

SDREO would like to provide comments regarding the following IEPR components:

- 1. Distributed generation**

- a. Rate structure review to address disincentives to DG in San Diego
 - b. Considerations for mandatory CHP procurement targets.
2. Energy efficiency and peak savings
3. Removing barriers to innovative technologies by moving forward toward open electricity markets
4. Electricity procurement planning in San Diego
5. San Diego Region Renewable Energy Study findings regarding renewable energy synergies that could reduce and shift peak energy needs
6. Border energy issues

2 Distributed Generation

The IEPR Draft identifies barriers to CHP deployment that include:

- Difficulty in selling excess power
- Complexity and cost of complying with CA ISO tariff requirements
- Inability to renew existing QF contracts with utilities
- Impacts on distribution system operations, reliability, and safety.

And following hurricanes Katrina and Rita, expected skyrocketing natural gas costs.

2.1 Rate structure review to address disincentives to DG in San Diego

In addition to these barriers, SDREO would recommend that the CEC request that the CPUC and SDG&E conduct a comprehensive rate design review to ensure that current rate structures do not create a disincentive to distributed generation and shifting energy usage off-peak.

San Diego's Regional Energy Strategy (RES)¹ was adopted by SANDAG in July 2003. Like the IEPR, the RES has specific goals for energy efficiency, demand reduction, distributed generation, and renewable energy. Rate structure is one factor that affects attainment of these goals. Rates are important because they allocate costs and send signals to customers that engender certain behaviors. Rates are central to managing peak demand and energy consumption, viability of distributed generation, and allocating costs fairly.

Currently, SDG&E's main commercial time of use rate (AL-TOU) has a non-coincident demand charge that is much higher than peak charges.² Not only does this make it difficult for large customers to shift demand out of peak, it leads to customers shifting loads to on-peak times to avoid the high non-coincident demand charges. Some stakeholders in the region have argued that having higher non-coincident demand charges creates a disincentive to reducing peak usage and to installing distributed generation.

Customers who receive service under the AL-TOU rate are typically larger and have a greater opportunity to divert their load to these technologies. Yet the presence of a high non-coincident demand charge creates the likelihood that costs avoided during peak periods may be re-established when the DG system is shut down for

¹ RES: [www.sdenergy.org/uploads/Regional_Energy_Strategy_Final_07_16_03.pdf]

² More on the demand charge allocation: Currently, SDG&E's AL-TOU rate has two demand charge components: coincident demand charge and the non-coincident demand charge. The coincident peak charge is a \$/kW charge for the highest demand (kW) registered during the rates peak hours (11am-6pm). The non-coincident demand charge is the highest demand at any period of the day, including peak. Each of these demand charge components recovers different costs. The coincident demand charge recovers costs associated with the transmission system; that is, the overall system peak drives the need for transmission. The non-coincident demand charge recovers costs associated with the distribution system, so it is the highest demand at any time - not necessarily during the peak period - is what drives distribution needs.

maintenance, permitting restrictions or other operating purposes during the off or semi-peak periods. In the same sense, renewable energy systems that perform well during peak periods yet are inactive in the semi-peak periods may do little to reduce the non-coincidental demand. Investments in these technologies would be more attractive if they were credited with the avoided costs of a higher peak demand and on-peak volumetric charge.

2.2 Considerations for mandatory CHP procurement targets

SDREO is a large supporter of decentralized power, is an active member of the US Combined Heat and Power Association, and is the only non-utility implementer of the Self Generation Incentive Program (SGIP) in the state. We are pleased to see the recommendation for greater attention to CHP in the next Energy Action Plan and recognition of the barriers and benefits unique to this form of DG. With regard to the recommendation to translate the goal of 5,400 MW of CHP by 2020 into yearly IOU procurement targets, SDREO would suggest some factors to consider.

SDREO would request that the Energy Commission take into account the unique variables of each region of the state that could factor in as barriers to CHP installations. This again includes SDG&E's main commercial time of use rate (AL-TOU) rate design that has a non-coincident demand charge that is approximately three times higher than the peak demand charge. Many large businesses in the region have found this to hinder their efforts to utilize CHP.

There are also geographic and demographic considerations that should be included in a determination of CHP procurement targets for each IOU service territory. The San

Diego region has a small industrial and manufacturing sector. The manufacturing sector is largely co-located across the border in the maquiladora sector of Baja California, Mexico. Most businesses in San Diego are small and mid-size, at which the benefits of installing CHP (like generating the steam and getting the electricity for free) are less realized. SDREO suggests that some demographic factors be taken into consideration for the determination of future CHP procurement targets.

3 Energy Efficiency

The IEPR draft recommends that energy efficiency program portfolios focus on programs that achieve peak savings. SDREO would again recommend that to accomplish behavioral changes in larger users away from peak usage, a comprehensive rate design review must be done in the SDG&E service territory to insure that customers do not face disincentives to shift usage away from peak.

SDREO agrees that addressing peak is important and does so in the technical assistance we provide to the community. But we always promote energy efficiency savings measures first that will reduce energy usage across the board. Reducing demand on the peak is then addressed through assessment of additional control measures and alternative rate structures. We would caution shifting the focus of the energy efficiency program portfolio solely to achieving peak savings at the expense of wider energy efficiency benefits that are permanent and reduce both peak and off-peak usage.

4 Open Markets Promote Efficiency and Innovation

One of the guiding principle's of San Diego's Regional Energy Strategy is that markets and regulation must be designed and adapted as necessary to maximize the benefits of competition in wholesale and retail markets while protecting the public from inappropriate pricing practices in retail markets. SDREO would offer that promoting customer choice will also be a means to implementing the recommendations of the 2005 IEPR.

We have witnessed many times over how a lack of competition can stifle innovation. For instance, nationally the utility industry's efficiency levels have remained nearly stagnant since the 1950s. A fundamental reason for restructuring of utilities is to reduce costs and prices. Technological innovations in the business of producing electricity is one of the most effective means to keeping costs low in the long run, and restructuring efforts in other industries have proven it.³

Since the late 1970s, several industries have been substantially deregulated: surface freight (rail and trucks), airlines, natural gas, cable TV, and long distance telecommunications. In some cases, deregulation has been episodic (cable was reregulated in the early 1990s, and then again deregulated in 1999) or partial (local telecommunications remains regulated), but deregulatory efforts are proceeding, and deregulated industries are adjusting to the new landscape of competition. Although the process of adjustment can take a decade or more, in nearly every case prices and

³ *The Clean Air-Innovative Technology Link: Enhancing Efficiency in the Electricity Industry*, Northeast-Midwest Institute, 1999. [www.nemw.org/cleanair_inovtech.htm]

costs have come down and efficiency has gone up.⁴ Another hallmark has been the adoption (and in some cases, development) of new, more efficient, multifunctional technology. There has been an explosion of technological choices in telecommunications, which has been only partially opened to competition.

Similarly, promoting policies that move California toward more customer choice in open markets, with adequate safeguards, could be the impetus for greater market penetration of renewable technologies and increased innovation.

5 Electricity Procurement Planning in San Diego

SDREO agrees with the IEPR draft that there needs to be a more open atmosphere for resource planning. The San Diego region, through the San Diego Association of Governments⁵ Energy Working Group (EWG), is working to do just that at the local level.

SANDAG formed the Energy Working Group (EWG) to coordinate the implementation of the 2003 Regional Energy Strategy (RES). The EWG advises the Regional Planning Committee (RPC), which is responsible for comprehensive regional planning. SANDAG identified four focus areas for the EWG: (i) energy planning, policy, consensus building and implementation, (ii) unified legislative and regulatory advocacy with the

⁴ Ibid.

⁵ SANDAG comprises 18 cities and county governments and serves as the forum for regional decision-making. The Association builds consensus, makes strategic plans, obtains and allocates resources, and provides information on a broad range of topics pertinent to the region's quality of life. SANDAG is governed by a Board of Directors composed of mayors, council members, and a county supervisor, representing each of the region's 19 local governments. Supplementing these voting members are advisory representatives from Imperial County, the U.S. Department of Defense, Caltrans, San Diego Unified Port District, Metropolitan Transit Development Board, North San Diego County Transit Development Board, San Diego County Water Authority, and Baja California/Mexico. A professional staff of planners, engineers, and research specialists assists the Board of Directors.

state and federal governments, (iii) coordination with adjacent areas in the state and in Baja California, Mexico, and (iv) evaluation of the Regional Energy Strategy implementation efforts in the region. The EWG convened in March 2004 and meets monthly.

At its June 2004 regular session meeting, the EWG adopted the following goal:

“Develop and execute a stakeholder-based energy resource planning process that ensures sufficient participation, influence, and regional consensus to guide SDG&E’s submittal of the regional long-term resource plan (LTRP).”

SDG&E is also a member of the EWG and has been participating in the subcommittees and working group to address local stakeholder needs. The utility has stated it will include in its LTRP submittal to the CPUC all the positions that the EWG takes in development of the plan and identify where the utility did and did not follow the EWG’s recommendations.

SDREO, on behalf of the SANDAG Energy Working Group, would invite the Energy Commission’s participation in this effort in San Diego. It is our desire that the process will include a series of public input and technical workshops and energy resource modeling, and that this will create a participatory process for energy planning in the San Diego region. Since the San Diego region’s political boundaries closely match the utility service territory boundaries, San Diego could also serve as a manageable test-bed for community-based energy planning in this renewed era of utility mandated long-term planning in California.

6 Renewable Energy Synergies in San Diego Region

SDREO offers as a resource to the Energy Commission an August 2005 scientific study on the potential for renewable energy in the San Diego region: *Potential for Renewable Energy in the San Diego Region*.⁶ The study was briefly referenced in the IEPR chapter on Border Energy but could be beneficial to *Chapter 6: Renewable Resources for Electricity Generation*. The study examined the potential for development of wind power, solar energy, geothermal, biogas and biomass resources, and hydroelectric power in San Diego and Imperial counties and in the Baja California region of Mexico. It did not consider cost or policy issues, which will ultimately determine how much of these resources are developed.

Among its findings:

- The report estimates that it could be possible to generate more than 5,000 megawatts (MW) from solar panels during periods of peak use. Solar thermal electric resources - in remote regions of San Diego and Imperial counties - would add another 35,000 MW to this estimate. (SDG&E's peak usage is approximately 4,000 MW.)
- While there are only limited wind systems in the San Diego region right now, the study shows that wind energy could be a robust electricity resource. Potential power production could reach 1,400 to 1,500 megawatts. Wind power varies significantly by time of day and season.

⁶ Study released in August 2005. Study Group members include SDREO, SDSU, SDG&E, Universidad Autonoma de Baja California (UABC), Resley Consulting, Tanaka Research and Consulting and Rohy Consulting Associates. The Department of Energy's National Renewable Energy Laboratory also participated. [www.renewables.org/]

- The study indicates that geothermal power - as close as Imperial County - could generate close to half of today's maximum power demand in the San Diego region. Unlike wind and solar power, geothermal energy can be produced 24 hours a day, 7 days a week.

Additional study findings that could feed into the IEPR draft regarding the integration of renewable resources into California's electricity system include:

Photovoltaics Impacts on Substations

- PV production matches well with typical commercial substation peak load
 - 2 PM peak (PV produces 62% of nameplate)
 - 11 MW of PV would reduce peak demand by 6.8 MW
- PV production contributes less to residential peak loads.
 - 5 PM peak (PV produces 25% of nameplate)
 - 11 MW of PV would reduce peak by 2.7 MW

Total Technical Potential for Wind Power in San Diego Region

-Maximum Capacity = 1380-1530 MW

-Annual energy = 3,700-4,100 GWh/yr (Includes southwest part of Imperial County)

Based on the Study, it appears that the right mix of renewable resources could have a positive impact on SDG&E system peak. For instance, there appears a complimentary relationship between PV and wind to effectively reduce and shift peak electricity demand. Further study could be conducted to determine an optimum renewable energy portfolio mix that can be integrated into energy resource planning. Figures below from the Study show the potential synergies if we overlay the Summer Hourly Wind Potential and the PV Potential over the SDG&E Summer Peak Load Demand.

Figure 4.2 on page 60 of Renewable Energy Study:

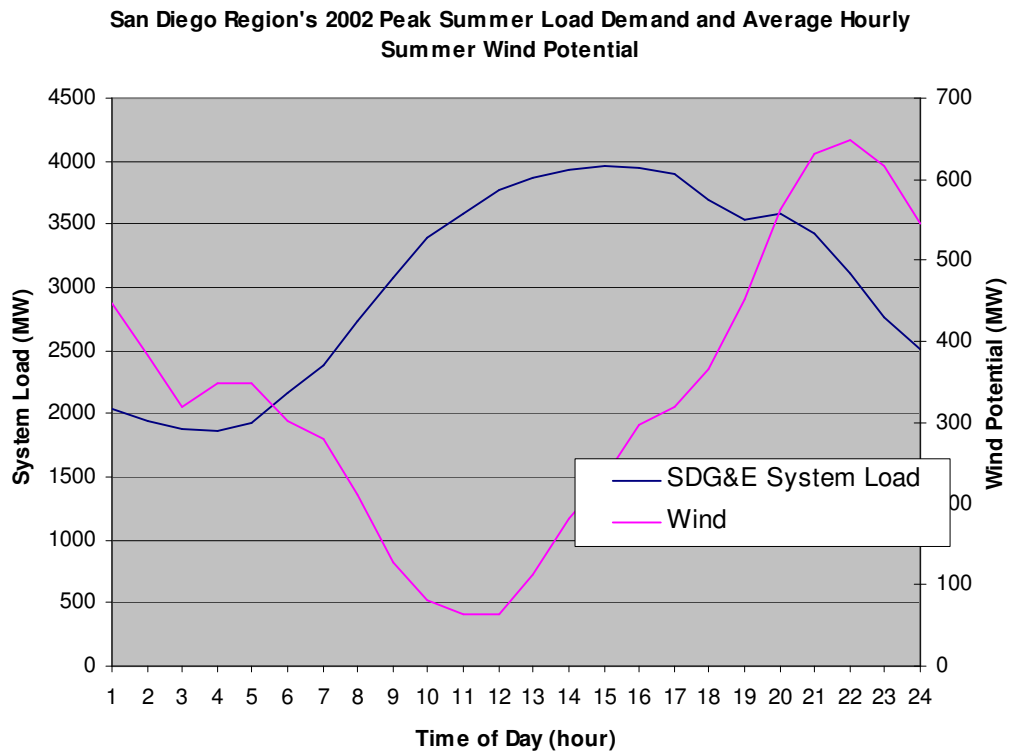
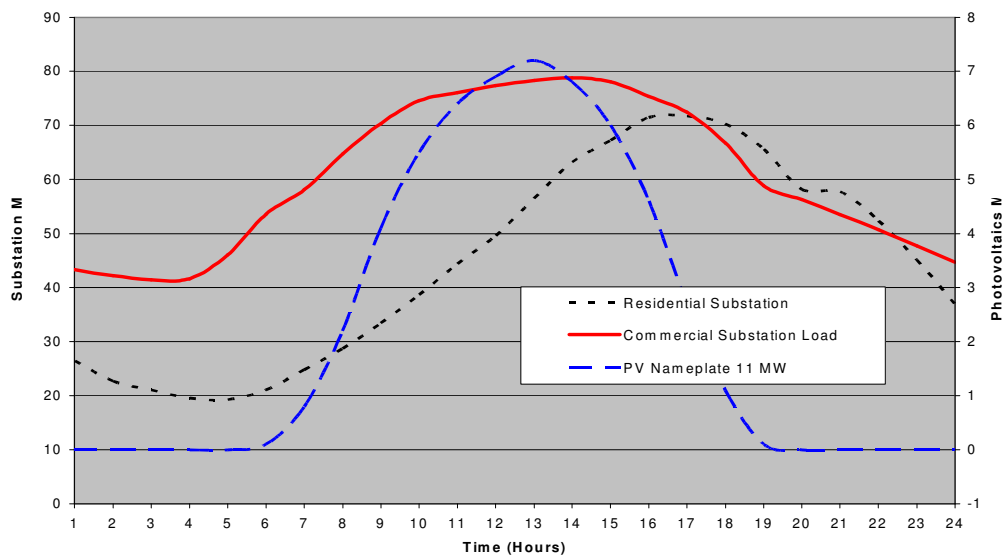


Figure 2.5 of Renewable Energy Study on page 43:
Impact of 11 MW on a SDG&E Commercial and Residential Substation Peak Load



7 Border Energy Comments

This year, the San Diego Regional Energy Office began a *Border Energy Savings Program* targeting the maquiladora sector of Baja California. The program is in its infancy, but certain barriers to energy efficiency and combined heat and power in the region are already apparent. There is a need for dedicated binational energy dialogues. The Border Energy Issues Group at SANDAG was one beneficial resource to continued communications and sharing of ideas and resources, among energy experts and government officials but that program is temporarily dormant due to funding constraints. Any assistance the Energy Commission could provide to help maintain established cross Border working groups like BEIG, to facilitate the sharing of ideas and resources between California and Mexico, would be beneficial.

Another barrier that the SDREO has heard in Baja while promoting energy saving measures to industry is that unlike the rebate and incentive programs that businesses can participate in on the US side of the border, there is a lack of financial incentives for manufacturers to implement efficiency measures. Cash flow constraints impact facilities' abilities to take action. Access to natural gas can also be an issue for maquiladoras and rule out combined heat and power options.

SDREO would be encouraged by Energy Commission recommendations to build and expand government to government relations both locally, at the state level and federally to share successes and barriers to further integration of energy efficiency, renewable energy and distributed generation in the Border region. In addition, new

research on the regulatory, legal and other governmental frameworks impacting energy efficiency, CHP and renewable energy installations would benefit all parties.

SDREO again offers as a resource the August 2005 scientific study on the potential for renewable energy in the San Diego region: *Potential for Renewable Energy in the San Diego Region*. This study is briefly referenced in the IEPR Border Energy Chapter but could serve as a foundation on technical potential questions regarding renewable energy development.

8 Concluding Remarks

The San Diego Regional Energy Office would like to thank the Energy Commission for this opportunity to provide comments on the draft Integrated Energy Policy Report. Please feel free to contact us with any comments or questions or if SDREO may be of assistance.

Sincerely,

Susan A. Freedman, Senior Policy Analyst

San Diego Regional Energy Office